

GAS NEEDLE STRUCTURE FOR GAS-ASSISTED INJECTION MOLDING  
[Ch'i-t'i Pu-chu She-ch'u Ch'eng-hsing Chih Ch'i-chen Kou-Tsao]

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TITLE	(54): GAS NEEDLE STRUCTURE FOR GAS- ASSISTED INJECTION MOLDING
FOREIGN TITLE	[54A]: CH'I-T'I PU-CHU SHE-CH'U CH'ENG-HSING CHIH CH'I-CHEN KOU-TSAO

[57] Claims:

1. A gas needle structure for gas-assisted injection molding (1), being fitted onto a mold for injection molding, by means of which gas advanced into the mold is sent into the gas needle structure and is again branched into a molding channel, causing sizing material to evenly fill the channel to achieve the aim of gas-assisted injection molding, comprising:

a locating collar main body, being penetrated by a central channel, and one side being a socket pipe end, and the other side being provided with a locating part that can be fixed and located on the above-described mold for injection molding, by means of which the central channel can receive gas coming from the mold; and

a ventilating medium, being in a short tube shape used for standard design, and being capable of being fitted into the socket pipe end of the locating collar main body and having formed a gas channel, and a ventilating plate on one end being exposed outside the socket pipe end port, by means of which gas inside the locating collar passes through the gas channel and quickly branches into the molding channel.

2. A gas needle structure for gas-assisted injection molding (1) as defined in Claim 1, wherein the locating collar main body of a separated structural design is constituted by a locating body and a socket pipe body, and is provided with a coupling structure at the mutually corresponding ends of the two, by means of which the two can be disassembled and assembled.

3. A gas needle structure for gas-assisted injection molding (1) as defined in Claim 1 or 2, wherein the internal wall of the socket end of

the locating collar main body is furnished with internal threading, and the external wall of the ventilating medium is furnished with external threading and can be screwed into the internal threading to achieve ease of disassembly and assembly operations.

4. A gas needle structure for gas-assisted injection molding (1) as defined in Claim 1, wherein the two sides of the ventilating medium are planed to a flat surface.

5. A gas needle structure for gas-assisted injection molding (1) as defined in Claim 2, wherein the top end wall of the locating body is furnished with a recessed ring, and the corresponding bottom wall of the socket pipe body is furnished with a fastening ring that can be fastened into the recessed ring so that it can be coupled with the top end of the locating body, and is also useful for disassembly.

#### Brief Explanation of the Drawings:

Figure 1 is an exploded view of a well-known gas needle structure.

Figure 2 is a schematic of the assembly of the well-known gas needle structure in Figure 1.

Figure 3 is an exploded schematic of a preferred working example of the gas needle structure for gas-assisted injection molding (1) of the present design.

Figure 4 is a schematic of the socket pipe end of the locating collar main body of the present design in Figure 3.

Figure 5 is a schematic of the assembly of a preferred working example of the gas needle structure for gas-assisted injection molding (1) of the present design and the mold.

Figure 6 is an enlarged schematic of the assembly of the

ventilating medium and the socket pipe end of the present design in Figure 5.

Figure 7 is an exploded schematic of another preferred working example of the gas needle structure for gas-assisted injection molding of the present design.

Figure 8 is a schematic of the assembly of the present design in Figure 7 and the mold.

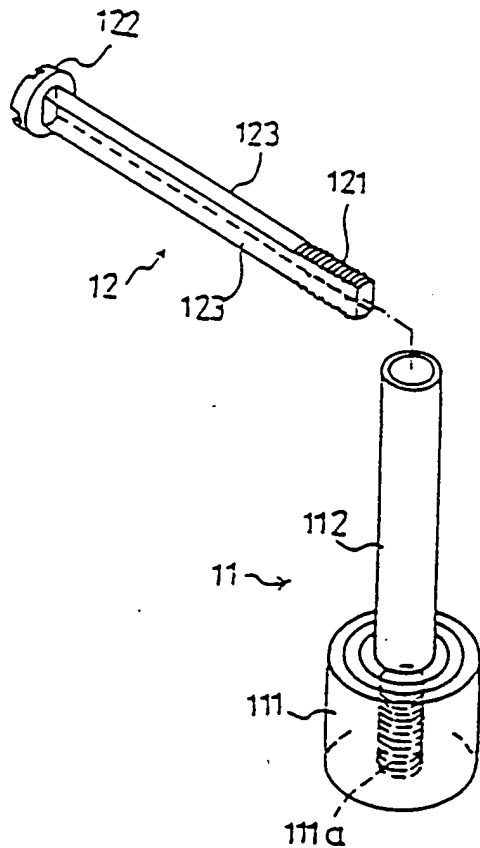


Figure 1

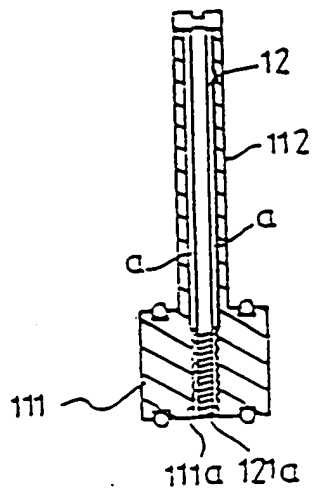


Figure 2

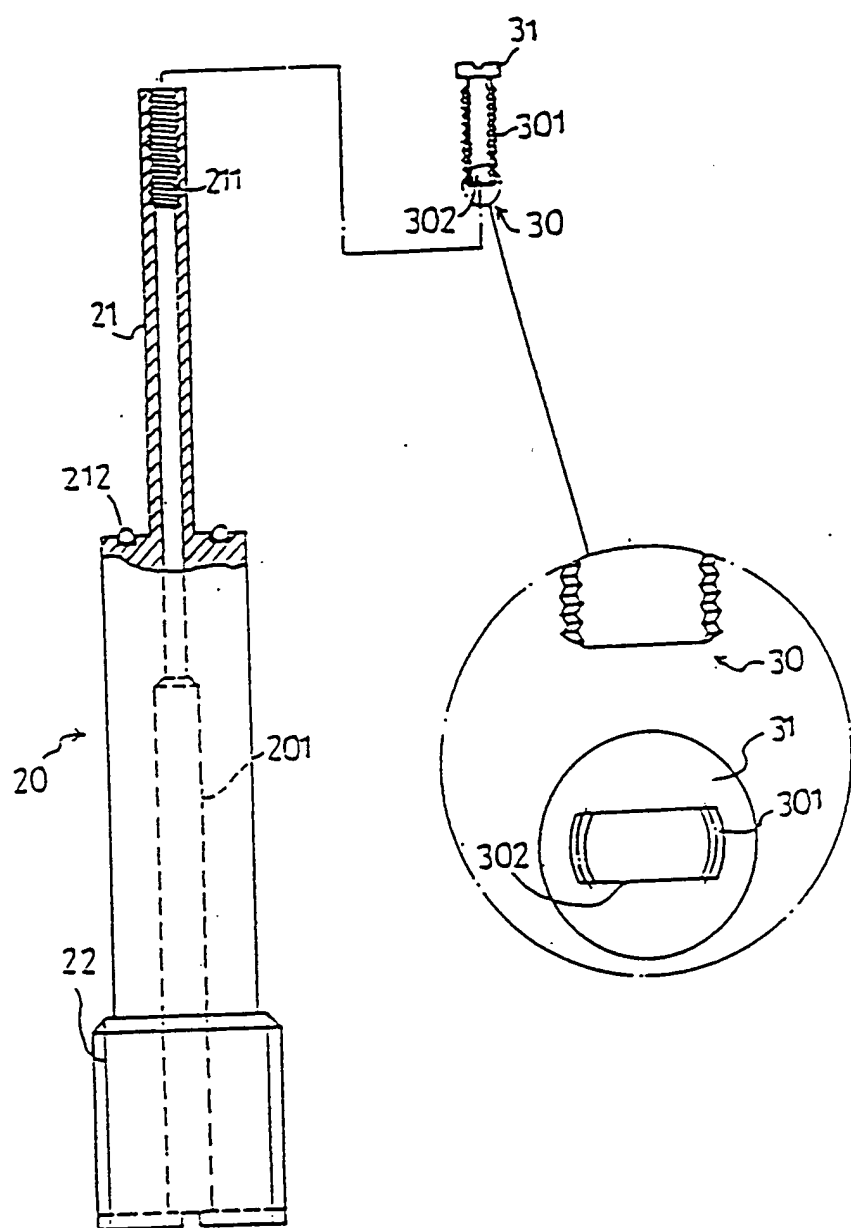


Figure 3

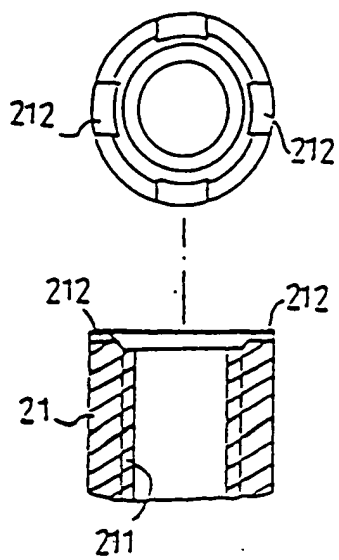


Figure 4

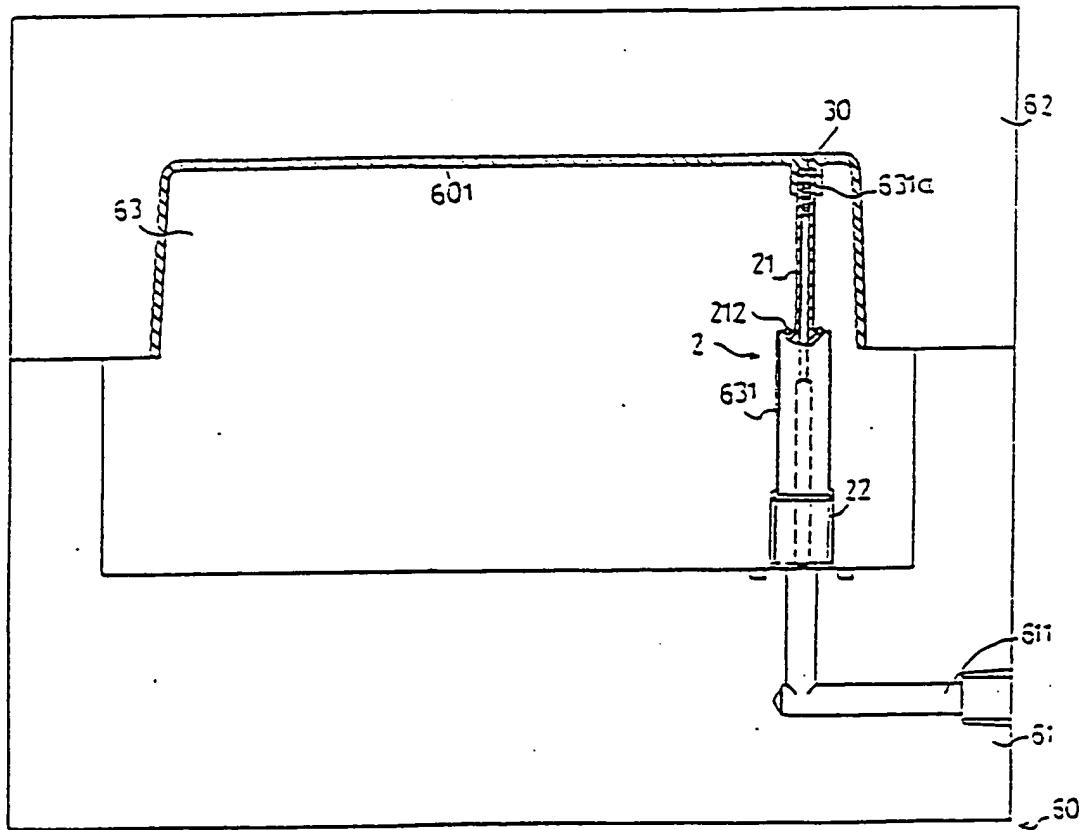


Figure 5



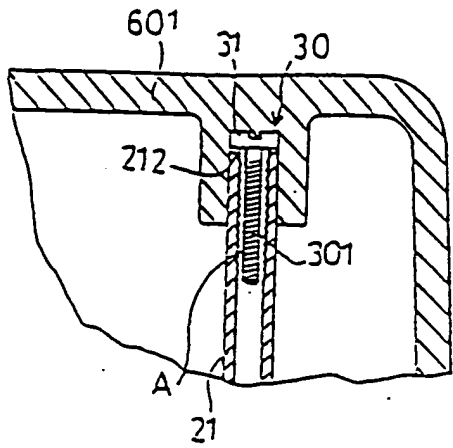


Figure 6

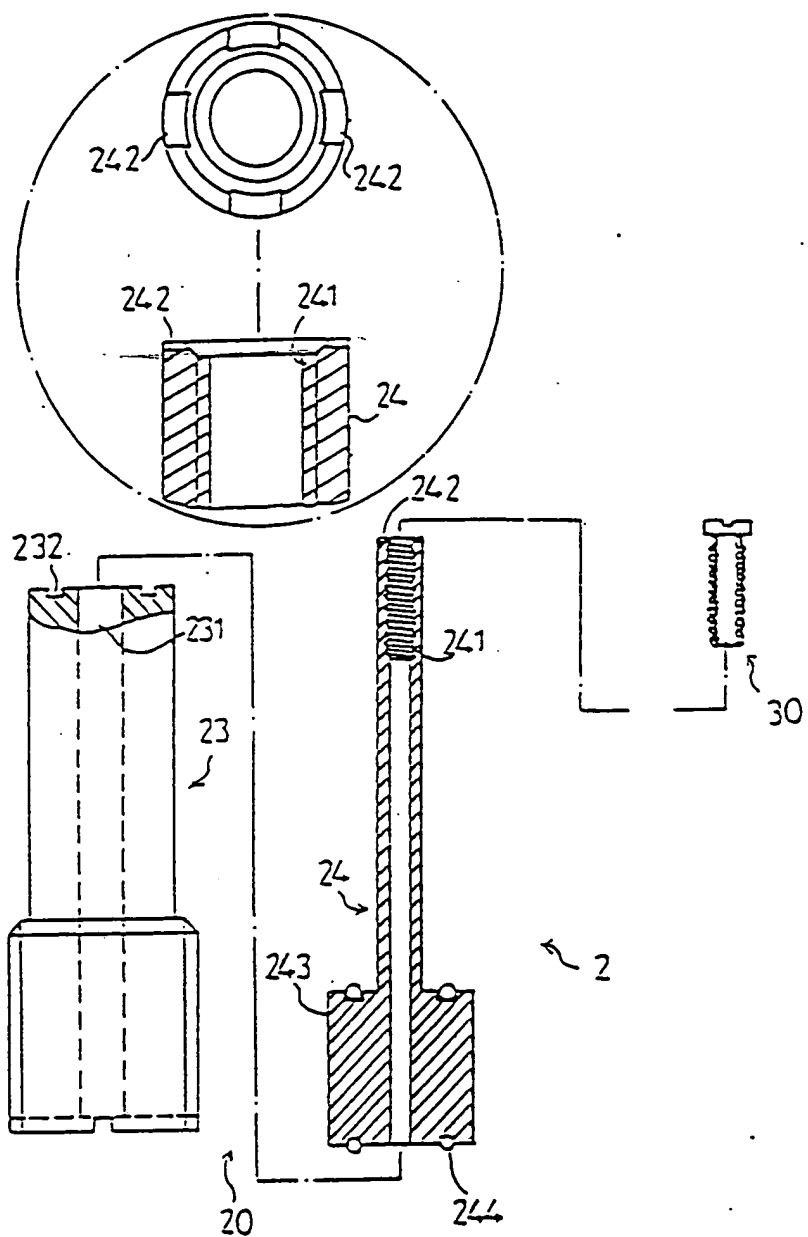


Figure 7

[Figure 8 not included]

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新 型

第 6 頁

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(54) 名 稱：氣體輔助射出成型之氣針構造 (一)

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梁訓程

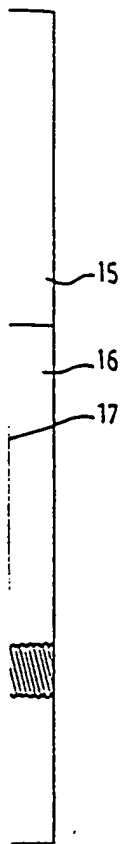
桃園縣龜山鄉文明一街四號

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1

2

[57]申請專利範圍：

1. 一種氣體輔助射出成型之氣針構造 (一)，其係配合一射出成型模座上使用，藉進至模座之氣體送至氣針構造處再分流至成型模道對膠料使之均勻充滿模道內，達成氣體輔助射出成型目的；其係包括有：
  - 一定位套本體，其貫設一中心管道，且一側為套接管端，另一側緣設定位部，可固置定位於上述射出成型模座，藉中心管道承接由模座而來之氣體；及
  - 一通氣介質體，其為短管狀使之標準規格化設計，並可套設於該定位套本體之套接管端內並形成有氣體通道，且使其一端之通氣板凸露於套接管端端口外，利於在定位套本體內氣體經由氣體通道迅速分流至成型模道內。
2. 如申請專利範圍第1項所述之氣體輔助射出成型之氣針構造(一)，其中該定位套本體可為分體結構設計，係由一定位體及一套接管體所構成，並於兩者相對

應端緣係設連結結構，利於兩者之拆、組。

3. 如申請專利範圍第1或2項所述之氣體輔助射出成型之氣針構造(一)，其中該定位套本體之套接管端內壁設有內螺紋，而該通氣介質體之外管壁設有外螺紋而能螺接於內螺紋，達成便利拆、組之操作。
4. 如申請專利範圍第1項所述之氣體輔助射出成型之氣針構造(一)，其中該通氣介質之兩側係削平為平面。
5. 如申請專利範圍第2項所述之氣體輔助射出成型之氣針構造(一)，其中該連結結構係於該定位體頂端壁上凹設有凹置環；而該套接管體相對端底壁係凸設一卡制環，可卡制於凹置環，俾可連接於該定位體頂端，並利於拆解。

圖式簡單說明：

第一圖係習知氣針結構之分解圖，

第二圖係第一圖習知氣針結構之組

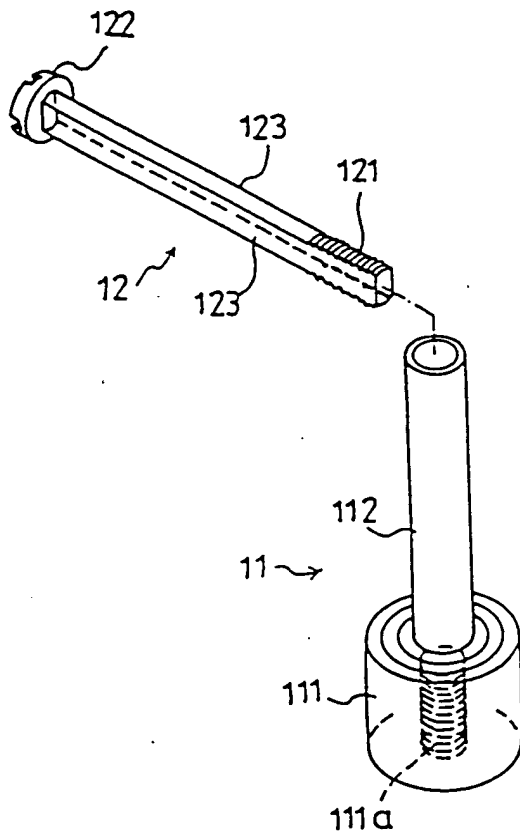
20.

合示意圖。

第三圖係本創作氣體輔助射出成型之氣針構造(一)較佳實施例之分解示意圖。

第四圖係本創作第三圖中定位套本體之套接管端之示意圖。

第五圖係本創作氣體輔助射出成型之氣針構造(一)與模座較佳實施例之組合



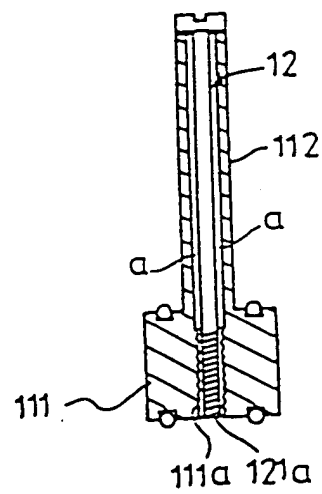
第一圖

示意圖。

第六圖係本創作第五圖中通氣介質體與套接管端之組合放大示意圖。

5. 第七圖係本創作氣體輔助射出成型之氣針構造(一)另一較佳實施例之分解示意圖。

第八圖係本創作第七圖與模座之組合示意圖。



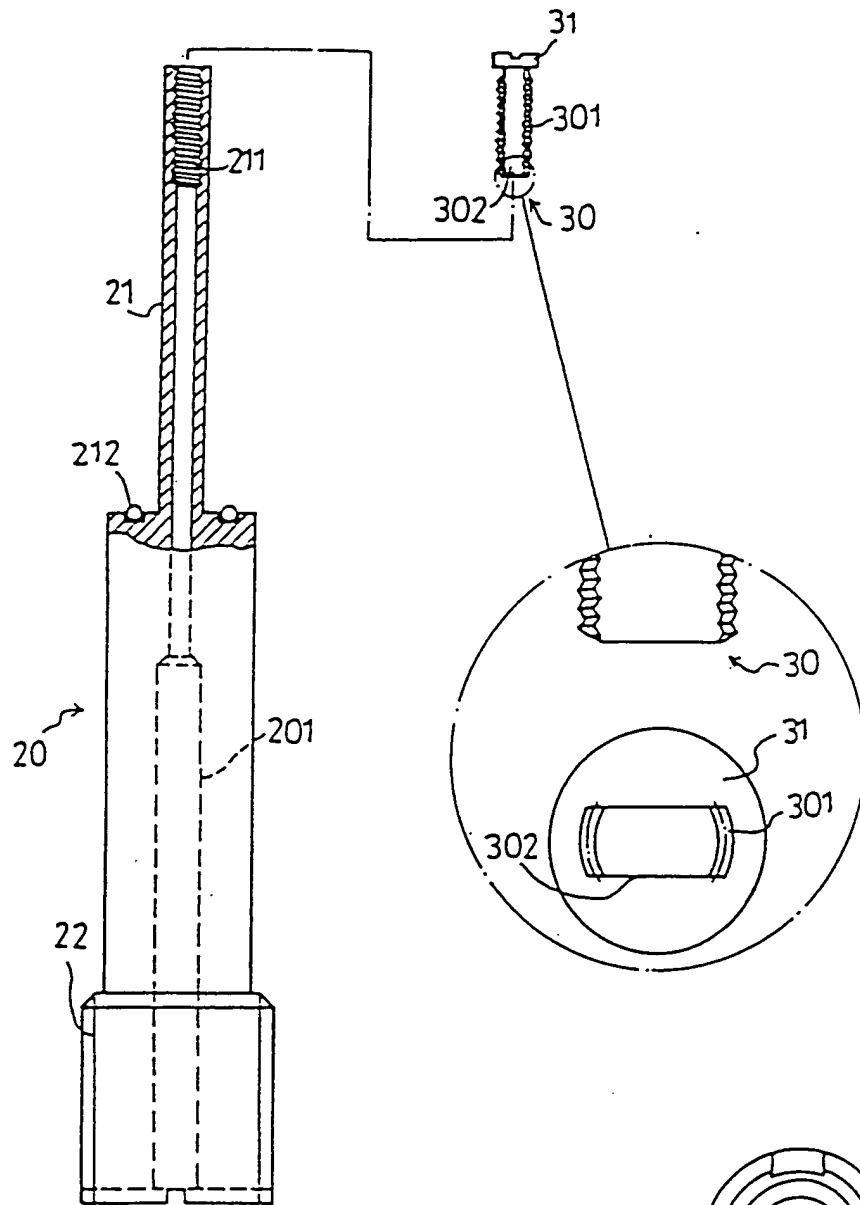
第二圖

介質

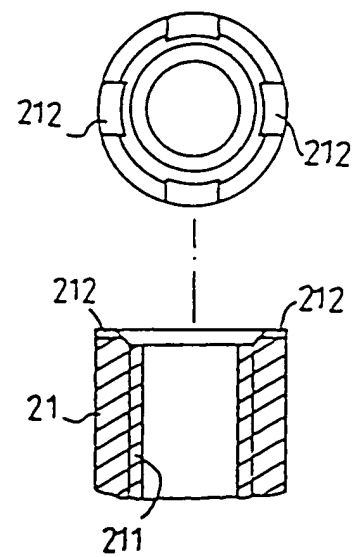
成型

解示

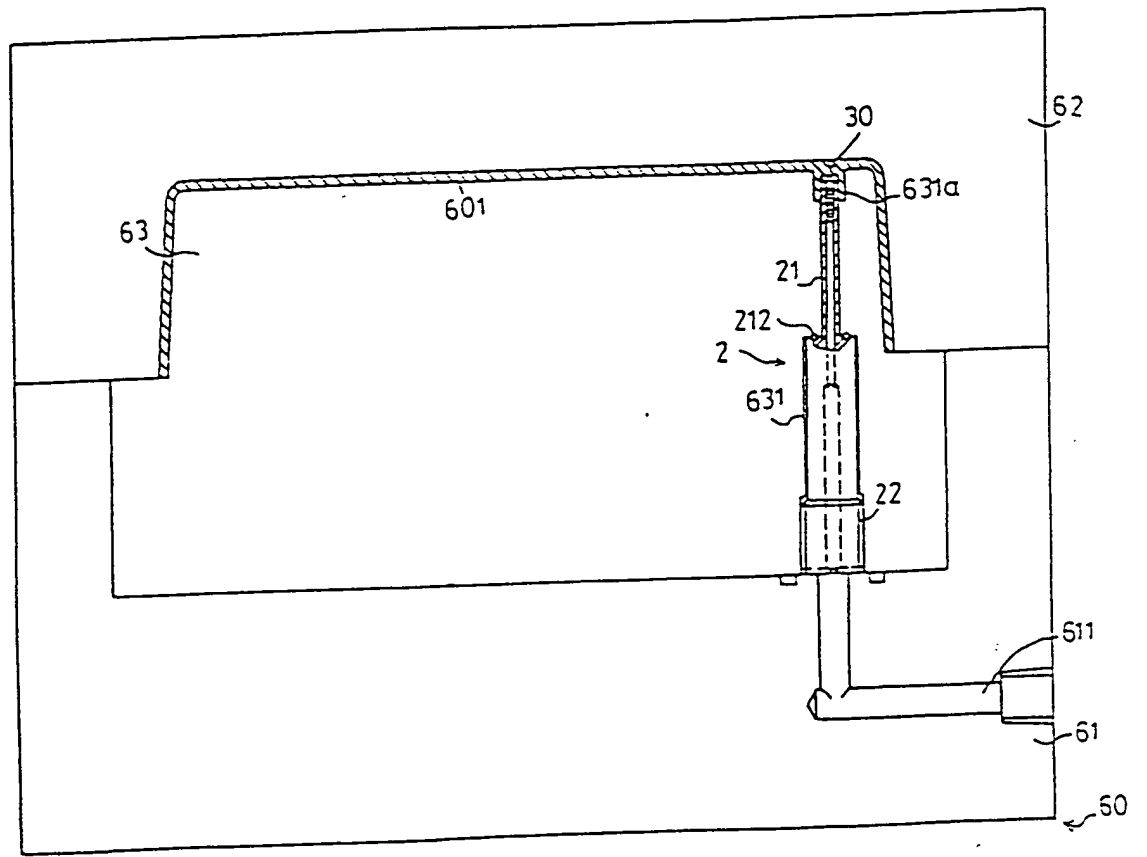
之組



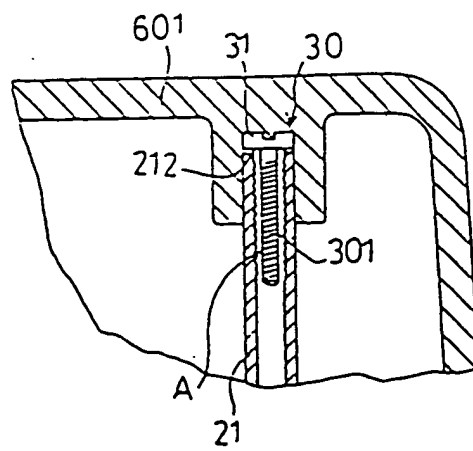
第三圖



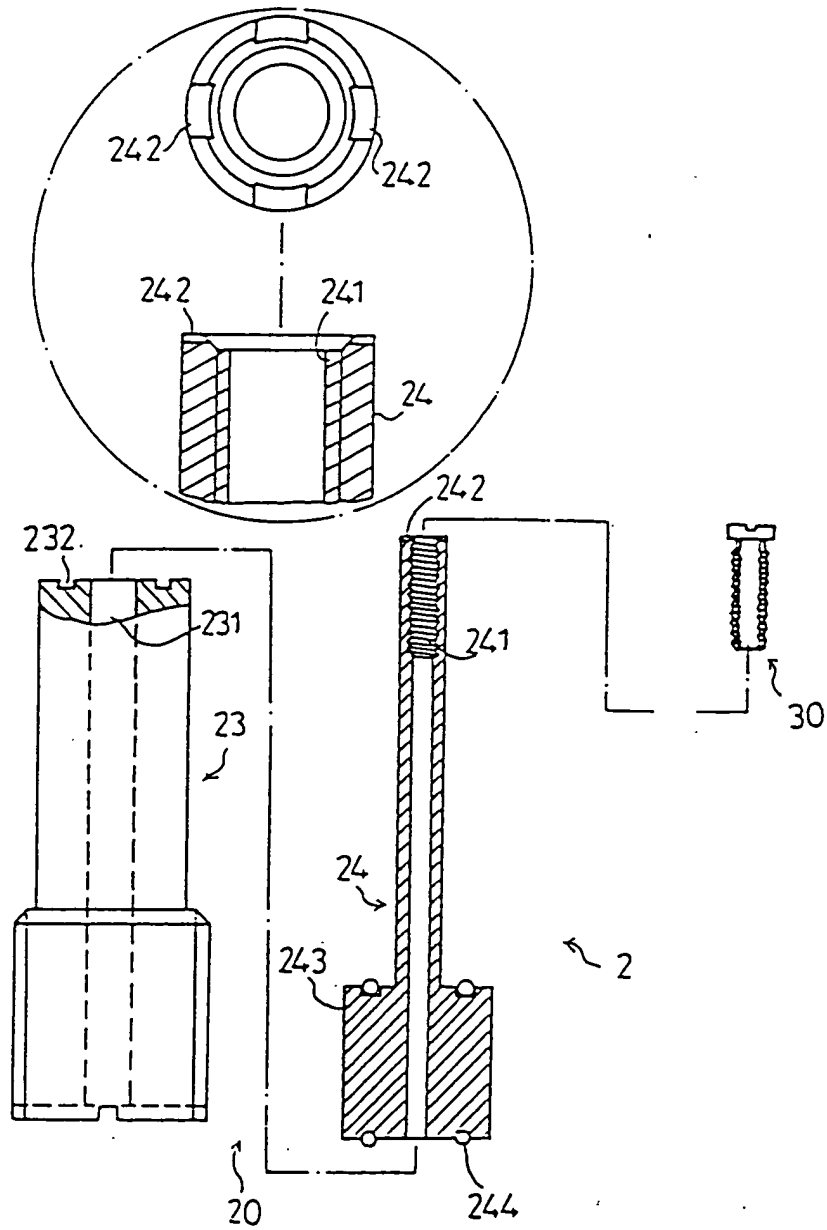
第四圖



第五圖



第六圖



第七圖